WHAT IS CLAIMED IS:

1. An electronic device comprising a substrate and an electronic circuit element flip-chip-connected on said substrate, wherein a connection is made by gold-tin (Au-Sn) bonding, gold-silver (Au-Ag) bonding, gold-aluminum (Au-Al) bonding or gold-gold (Au-Au) bonding between a chip electrode of said electronic circuit element and an internal electrode on said substrate, and a peripheral portion or a portion which needs to be sealed in said electronic circuit element and said substrate opposed to said electronic circuit element are bonded to each other and sealed by the same method as said bonding method.

2. The electronic device according to claim 1, wherein said electronic circuit element comprises a piezoelectric element.

3. The electronic device according to claim 1, wherein said electronic circuit element comprises a SAW chip, a thin film bulk acoustic resonator (FBAR) or a microelectromechanical system (MEMS).

4. The electronic device according to claim 1, wherein said the surface of the electrode on said electronic circuit element is plated with gold (Au) and the surface of the internal electrode on said substrate is plated with tin (Sn), silver (Ag), aluminum (Al) or gold (Au).

5. The electronic device according to claim 1, wherein said substrate comprises a printed substrate or

a flexible substrate.

6. The electronic device according to claim 1, wherein said substrate comprises a metal core substrate.

7. The electronic device according to claim 1, wherein said substrate comprises a glass substrate or a ceramic substrate.

8. The electronic device according to claim 1, wherein said substrate comprises a silicon substrate.

9. The electronic device according to claim 6, wherein a core metal and a peripheral sealing portion of said metal core substrate are electrically connected to each other.

10. A method of manufacturing an electronic device of a chip size, comprising:

making a connection by gold-tin (Au-Sn) bonding, gold-silver (Au-Ag) bonding, gold-aluminum (Au-Al) bonding or gold-gold (Au-Au) bonding between an electrode of each of electronic circuit elements each having the electrode and a peripheral portion plated with gold (Au) and the corresponding one of internal electrodes of a multiple-piece-forming substrate on which the internal electrodes and sealing portions plated with tin (Sn), silver (Ag), aluminum (Al) or gold (Au), external electrodes and through hole wiring for connecting the internal and external electrodes are formed, said bonding being performed by heating and pressing the electronic circuit elements and the

substrate while opposing the electronic circuit elements and the substrate to each other;

sealing the peripheral portion of each of the electronic circuit elements and the sealing portion of the substrate opposed to the peripheral portion of the electronic circuit elements by the same gold-tin (Au-Sn) bonding, gold-silver (Au-Ag) bonding, gold-aluminum (Au-Al) bonding or gold-gold (Au-Au) bonding; and

separating the electronic circuit elements one from another by cutting at the sealing portions to obtain the chip-size electronic device.

11. A method of manufacturing an electronic device of a chip size, comprising:

making a connection by gold-tin (Au-Sn) bonding, gold-silver (Au-Ag) bonding, gold-aluminum (Au-Al) bonding or gold-gold (Au-Au) bonding between an electrode of each of electronic circuit elements each having the electrode and a peripheral portion plated with gold (Au) and the corresponding one of internal electrodes of a multiple-piece-forming substrate on which the internal electrodes and sealing portions plated with tin (Sn), silver (Ag), aluminum (Al) or gold (Au), external electrodes and through hole wiring for connecting the internal and external electrodes are formed, said bonding being performed by heating and pressing the electronic circuit elements and the substrate while opposing the electronic circuit elements and the substrate to each other;

sealing the peripheral portion of each of the electronic circuit elements and the sealing portion of the substrate opposed to the peripheral portion of the electronic circuit elements by the same gold-tin (Au-Sn) bonding, gold-silver (Au-Ag) bonding, gold-aluminum (Au-Al) bonding or gold-gold (Au-Au) bonding; and

obtaining the chip-size electronic device by grooving the sealing portions in the direction of mounting of the electronic circuit elements to a depth reaching the substrate, metalizing the upper surface and the grooved portions, and separating the electronic circuit elements one from another by cutting at the sealing portions.

12. A method of manufacturing an electronic device, comprising:

forming a chromium (Cr) or copper (Cu) film as a plating base film on a surface acoustic wave wafer on which interdigital electrodes and chip electrodes having aluminum (Al) as a major constituent are formed;

forming a film of a resist thereon by applying the resist, setting the resist by hearing, partially removing the plating resist at positions corresponding to the chip electrodes by irradiation with ultraviolet rays and development;

forming a gold plating of a desired thickness on the chip electrode portions;

thereafter removing the resist;

forming a surface acoustic wave wafer with a

gold (Au) plating by selectively removing chromium (Cr) or copper (Cu) forming the plating base film by etching using diammonium cerium nitrate ($(CeNH_4)_2(N_3)_6$) so as not to affect the interdigital electrodes and the chip electrodes having aluminum (Al)as a major constituent; and

manufacturing the electronic device by using the surface acoustic wave wafer and by the method according to claim 5 or 6.

13. The method according to claim 10, wherein the substrate comprises a metal core substrate.

14. The method according to claim 11, wherein the substrate comprises a metal core substrate.

15. The method according to claim 12, wherein the substrate comprises a metal core substrate.

16. The method according to claim 13, wherein a core metal and a peripheral sealing portion of the metal core substrate are electrically connected to each other.

17. The method according to claim 14, wherein a core metal and a peripheral sealing portion of the metal core substrate are electrically connected to each other.

18. The method according to claim 15, wherein a core metal and a peripheral sealing portion of the metal core substrate are electrically connected to each other.